

REMARKS

Objections to the specification

The Brief Description of the Drawings has been objected to for improperly referencing Figures 2A-E. The specification has been amended as requested by the Examiner to reference Figures A-F.

The Abstract of the Disclosure has been objected to for not being on a separate sheet. Attached hereto is a separate Abstract to be inserted into the specification. The Abstract contains no new matter.

As the above amendments and remarks address and overcome the objections to the specification, withdrawal of the objections is respectfully requested.

Rejections under 35 U.S.C. §112, first paragraph

Claims 1-24 have been rejected under 35 U.S.C. §112, second paragraph as being indefinite. More specifically, the claims have been rejected for being drawn to a "means", recitation of "characterized in that", and confusing grammar. Claims 1-12 have been further rejected for recitation of reference numbers of the figures and claims 13-24 have been further rejected for failing to positively recite method steps. Applicants note for the record that method claims 13-24 recited active steps prior to the present amendments and as such were in proper form.

However, claims 1-24 have been amended as indicated above, to address these rejections raised by the Examiner and use more

common form to U.S. practice and proper grammar. Withdrawal of the rejections is therefore respectfully requested.

Rejections under 35 U.S.C. §102(e)

Claims 1-24 have been rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Pat. No. 6,322,979. The Examiner asserts that the '979 patent discloses a biosensor with a molecule X-R-Ch, with a self-assembled monolayer, and a biological material that may be DNA, wherein the surface may be gold. Applicants traverse this rejection and withdrawal thereof is respectfully requested.

The Examiner appears to have misunderstood the invention to be a biosensor chip, such as that of the '979 patent which is used in SPR measurements to assay a biological analyte in a sample. However, the present invention has nothing to do with a biosensor chip. The present invention, as encompassed by claim 1, is drawn to a device for electrical contacting or for the isolation of organic or inorganic semiconductors in electronic or optoelectric devices comprising

a substrate, either in the form of an electrical conductor contact material or an dielectric isolating material; and

a patterned or unpatterned charge transfer material made from charge transfer components in the form of donors and/or acceptors, and which forms a self-assembling layer, has a direct or indirect bond to the surface of the substrate, and forms a charge transfer complex with an organic or inorganic

semiconductor, wherein the charge transfer material forms a donor or acceptor material in the charge transfer complex depending upon respectively whether the semiconductor itself is an acceptor or donor material.

U.S. '979 fails to disclose the device of the present invention. The biosensor chip of U.S. '979 is used in the generation of a signal based on the specific angle of incidence of reflected light. The present invention, on the other hand is used in electrical contacting or for the isolation of organic or inorganic semiconductors. As such, the present claims recite features which are in no way suggested or contemplated by the biosensor chip of the '979 patent. For example, the present invention requires that the charge transfer material forms a charge transfer complex with an organic or inorganic semiconductor, wherein the charge transfer material forms a donor or acceptor material in the charge transfer complex depending upon respectively whether the semiconductor itself is an acceptor or donor material. There is no disclosure or suggestion of this feature, either explicitly or inherently, in the '979 patent. As such, the present invention is not anticipated by the '979 patent and withdrawal of the rejection is respectfully requested.

As the above-indicated amendments and remarks address and overcome the objections and rejections of the Examiner, withdrawal of the objections and rejections and allowance of the claims is respectfully requested.

A marked-up version of the amended portions of the specification and claims showing all changes is attached hereto.

Should the Examiner have any questions, regarding the present application, he is requested to please contact, MaryAnne Armstrong, PhD (Reg. No. 40,069) in the Washington DC area at (703) 205-8000.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), applicant(s) hereby petition(s) for an extension of time for one (1) month(s) for filing a reply to the Office Action in connection with the above-identified application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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MARKED-UP VERSION SHOWING THE CHANGES

IN THE ABSTRACT

A new Abstract of the Disclosure on a separate sheet has been submitted. No amendments have been made to the text of the Abstract.

IN THE SPECIFICATION

The paragraph beginning at page 5, line 11 has been amended as follows.

--fig. ~~2a-e~~ 2a-f the structure of various organic charge transfer compounds,--

IN THE CLAIMS

Please replace claims 1-24 with the following amended claims.

1. (Amended) A ~~means~~ device for electrical contacting or for the isolation of organic or inorganic semiconductors in electronic or optoelectric devices, ~~particularly thin film devices, wherein the means comprises~~ comprising

a substrate ~~(1)~~, either in the form of

a) a contact material ~~(1a)~~ consisting of an organic or inorganic electrical conductor, or ~~in the form of~~

b) an isolating material ~~(4)~~ consisting of an organic or inorganic dielectric; and ~~, characterized in that the~~

~~means further comprises~~

a patterned or unpatterned charge transfer material ~~(2)~~
~~provided patterned or unpatterned~~ on or at a surface of the
substrate ~~(1)~~, wherein the charge transfer material
including

a) comprises charge transfer components in the form of
donors and/or acceptors, ~~that the charge transfer material~~
~~(2)~~

b) forms a self-assembling layer ~~(3)~~ of one or more
atomic and/or molecular layers, ~~that the charge transfer~~
~~material (2)~~

c) has a direct or indirect bond to the surface of the
substrate, and ~~(1)~~, ~~and that the charge transfer material~~
~~(2)~~

d) forms a charge transfer complex ~~together with a~~
~~thereabove adjacently provided~~ with an organic or inorganic
semiconductor ~~(6)~~, wherein the charge transfer material
~~forming~~ forms a donor or acceptor material in the charge
transfer complex depending upon respectively whether the
semiconductor itself is an acceptor or donor material.

2. (Amended) A means device according to claim 1,
~~characterized in that~~ wherein the bond to the surface of the
substrate ~~(1)~~ is a chemical or electrostatic bond or a
combination thereof.

3. (Amended) A **means device** according to claim 1, ~~characterized in that~~ **wherein** the charge transfer material ~~(2)~~ is an organic compound.

4. (Amended) A **means device** according to claim 1, ~~characterized in that~~ **wherein** the organic compound ~~(2)~~ comprises a functional group ~~(2')~~ which forms the bond ~~(2'')~~ to the surface of the substrate ~~(1)~~.

5. (Amended) A **means device** according to claim 4, ~~characterized in that~~ **wherein** the functional group ~~(2')~~ is material selective and forms the bond ~~(2'')~~ to a specific substrate material ~~(6)~~.

6. (Amended) A **means device** according to claim 1, wherein the charge transfer material ~~(2)~~ is provided at the surface of the substrate ~~(1)~~, ~~characterized in that the means~~ **and the device further** comprises a connection layer without charge transfer components provided between the surface of the substrate ~~(1)~~ and the charge transfer material ~~(2)~~, **wherein** the connection layer **forming forms** a bond to the surface of the substrate and a bond to the charge transfer material.

7. (Amended) A **means device** according to claim 6, ~~characterized in that~~ **wherein the bonds of the connection**

layer each ~~the bond in each case~~ is a chemical or electrostatic bond or a combination thereof.

8. (Amended) A ~~means~~ device according to claim 6, ~~characterized in that~~ wherein the connection layer is formed of an organic bonding agent.

9. (Amended) A ~~means~~ device according to claim 8, ~~characterized in that~~ wherein the organic bonding agent is formed of DNA molecules, such that the one half strand of a DNA molecule is bonded to the surface of a substrate ~~(1)~~ and the complementary second half strand of the DNA molecule is bonded to the charge transfer material.

10. (Amended) A ~~means~~ device according to claim 1, ~~characterized in that~~ wherein the charge transfer material ~~(2)~~ is an atomic or molecular inorganic compound.

11. (Amended) A ~~means~~ device according to claim 10, wherein the charge transfer inorganic compound ~~(2)~~ is provided on the surface of the substrate ~~(1)~~, ~~characterized in that the inorganic compound (2) and~~ is formed of a material which reacts chemically with the substrate (1) and which forms a connection layer consisting of a chemical compound of the substrate material and the inorganic compound between the substrate (1) and the inorganic compound (2)

~~forms a connection layer consisting of a chemical compound of the substrate material and the inorganic compound.~~

12. (Amended) A ~~means~~ device according to claim 10, wherein the charge transfer inorganic compound ~~(2)~~ is provided at the surface of the substrate ~~(1)~~, ~~characterized in that the means~~ and the device further comprises a connection layer provided between the substrate ~~(1)~~ and the inorganic compound ~~(2)~~, wherein the connection layer ~~consisting of~~ comprises a chemical compound of the substrate material or a material with similar chemical properties, and the charge transfer inorganic compound.

13. (Amended) A method for fabricating a device of claim 1 ~~a means for electrical contacting or isolation of organic or inorganic semiconductors in electronic and optoelectronic devices, particularly thin film devices, wherein the means comprises a substrate either in the form of contact material consisting of an organic or inorganic electrical conductor or in the form of an isolating material consisting of an organic or inorganic dielectric, and wherein the method is characterized by~~ which comprises

providing a charge transfer material as a patterned or unpatterned self-assembling layer of one or more atomic or molecular layers on or at a surface of the substrate, wherein

the charge transfer material ~~including~~ includes charge transfer components in the form of donors and/or acceptors,

forming a direct or indirect bond between the charge transfer material and the surface of the substrate,

and forming a charge transfer complex of the charge transfer material together with a thereabove adjacently provided organic or inorganic semiconductor, wherein the charge transfer material ~~forming~~ forms a donor or acceptor material in the charge transfer complex depending upon respectively whether the semiconductor itself is an acceptor or donor material.

14. (Amended) A method according to claim 13, ~~characterized by~~ which further comprises forming the bond as a chemical or electrostatic bond or a combination thereof.

15. (Amended) A method according to claim 13, ~~characterized by~~ which further comprises selecting the charge transfer material as an organic compound.

16. (Amended) A method according to claim 15, ~~characterized by~~ which further comprises selecting the organic compound with a functional group which forms the bond to the surface of the substrate.

17. (Amended) A method according to claim 16, ~~characterized by~~ which further comprises selecting the functional group as a material-selective group such that the bond is formed to a specific substrate material.

18. (Amended) A method according to claim 13, wherein the charge transfer material is provided at the surface of the substrate, ~~characterized by~~ and which further comprises providing a connection layer without charge transfer components between the surface of the substrate and the charge transfer material, and forming the connection layer with a bond to the surface of the substrate and with a bond to the charge transfer material.

19. (Amended) A method according to claim 18, ~~characterized by~~ which further comprises forming ~~the~~ each bond in ~~each case~~ the connection layer as a chemical or electrostatic bond or a combination thereof.

20. (Amended) A method according to claim 18, ~~characterized by~~ which further comprises forming the connection layer of an organic bonding agent.

21. (Amended) A method according to claim 20, ~~characterized by~~ which further comprises forming the organic bonding agent of DNA molecules, such that the one half strand

of a DNA molecule is bond to the surface of the substrate and the complementary second half strand of the DNA molecule is bond to the charge transfer material.

22. (Amended) A method according to claim 13, ~~characterized by~~ which further comprises selecting the charge transfer material as an atomic or molecular inorganic compound.

23. (Amended) A method according to claim 22, wherein the charge transfer inorganic compound is provided on the surface of the substrate, ~~characterized by~~ and which further comprises forming the inorganic compound of a material which reacts chemically with the substrate such that between the substrate and the inorganic compound a connection layer consisting of a chemical compound of the substrate material and the inorganic compound is formed.

24. (Amended) A method according to claim 22, wherein the charge transfer inorganic compound is provided at the surface of the substrate, ~~characterized by~~ and which further comprises providing a connection layer consisting of a compound of the substrate material or a material with similar chemical properties, and the inorganic compound, between the substrate and the inorganic compound.